

## VISACOM/23 VISUAL COMPUTER SYSTEM

### APPLICATIONS

- Stand-Alone LANDSAT Data Processing
  - Land Usage
  - Forestry
  - Irrigation
  - State and Local Government Planning
- General Purpose Computer Graphics and Imaging for Educational Environments
- Simulation Requiring Both Computer Generated Graphics and Imaging Such as Tactical Training Systems
- Medical Image Systems—Particularly Suitable for Movie Mode and Nuclear Treatment Planning



### FEATURES

- Complete stand-alone image system
- Includes high performance DEC\* LSI-11/23 microcomputer
- Supports multiple users for software development
- 512K byte image memory for high resolution applications:
  - 512x480x12 image;
  - 512x480x4 graphic overlay
- Supports RSX11M or RT11 operating systems
- Independent zoom and scroll on image and graphic overlay
- Programmable color assignments for:
  - Image
  - Graphic Overlay
  - Cursor
  - Alphanumerics
  - Alphanumeric Background
  - Alphanumeric Cursor
- Independent overlay blink (1 Hz) and transparency override
- Individual A/N character blink (1 Hz) and A/N character background enable
- Bit plane mask for selective transfers to image and/or overlay memory
- 8 bit DAC's enable display of 256 shades of grey and/or up to 16.8 million color hues
- Readback of display data
- Selective update of individual display element
- Q-bus device compatible
- Access to image memory through 12K word Q-bus window
- User library, diagnostic, and demonstration software standard
- Library of Image Processing Software (LIPS) available

### SYSTEM DESCRIPTION

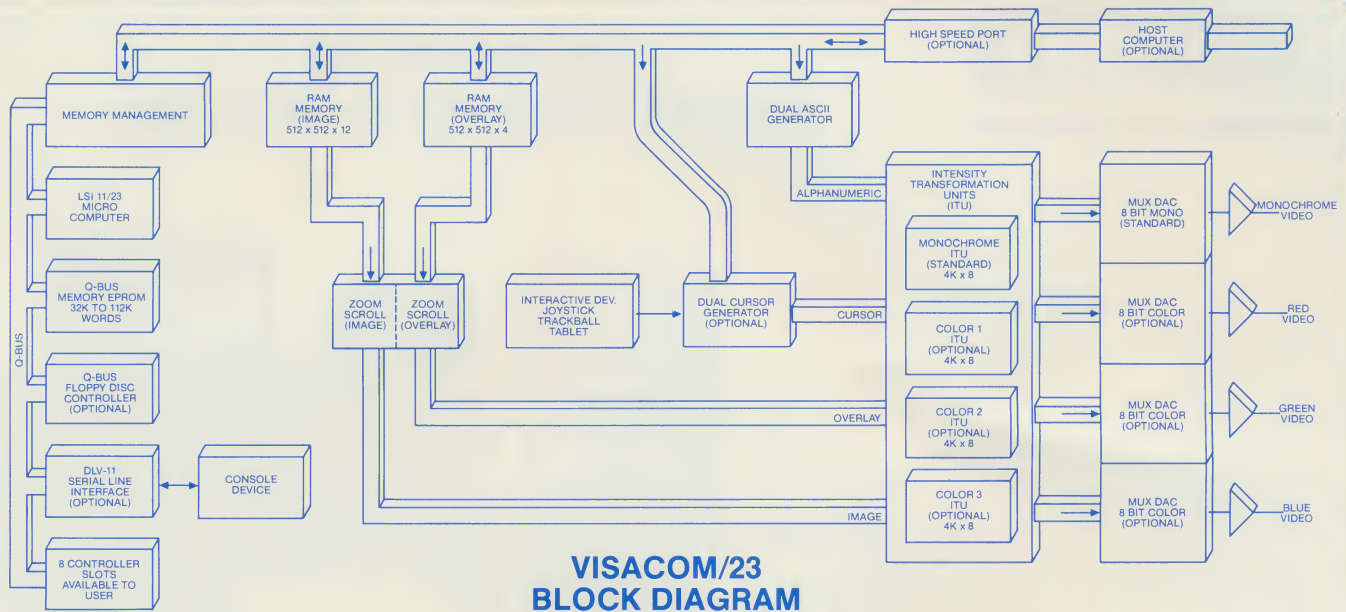
The VISACOM/23 combines superior image, graphic display, and advanced computing capabilities into a completely stand-alone system. Incorporating the high performance DEC\* LSI-11/23 microcomputer, the VISACOM/23 performs graphic, true color, monochrome or pseudo color image processing.

VISACOM/23's completely stand-alone capability adds a new level of flexibility to many graphics and/or image processing applications. VISACOM/23 supports up to two monochrome display terminals or one color and one monochrome display terminal simultaneously. Small space requirements and powerful capabilities make VISACOM/23 an ideal source of innovative and exciting opportunities in medical fields, tactical simulation, and LANDSAT data analysis. Highly acclaimed in the teaching environment, VISACOM/23 can be used as a general purpose computer display system in the laboratory or classroom to complement existing teaching facilities.

Based on the popular DEC LSI-11/23, VISACOM/23 gives you a highly versatile and reliable image processing system. Available operating systems include RT11 and RSX11M. Using the powerful software tools available with these systems and the VISACOM/23 user subroutine library, you can significantly decrease application development time and, with RSX11M VISACOM/23 can support both single user image processing and multi-user program development and data processing applications simultaneously. Also included are a comprehensive set of diagnostic programs as well as an easy to use demonstration package. Available as an option with the proper configuration is the extensive Library of Image Processing Software (LIPS).

Comprehensive features of the VISACOM/23 include 512K bytes of image memory, independent zoom and scroll on image and graphic memory, and flexible image and overlay transformation capability. Two alphanumeric character generators are standard and dual cursor with interactive device control is available. In addition, any Q-bus compatible device can be configured into the system. The optional high speed port allows for control via a host computer.

\*DEC, PDP-11, LSI-11, VAX, and UNIBUS  
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## SPECIFICATIONS:

**Processor:** DEC LSI-11/23

**Computer Memory:** 64K bytes to 224K bytes

**Image Refresh Memory:** 512K bytes arranged as 512x512x16 bits; 16K MOS RAM memory chips

**Image Access:** Combination of LSI-11/23 memory management and VISACOM/23 memory mapping provides for display access to a 12K word window on the Q-bus.

**Display Configurations:** 512x480x12 bit color image with 4 bits each for red, green, and blue and 512x480x4 bit overlay—each bit plane as an overlay or 512x480x12 monochrome image with 4 bits of overlay. Alternately, two 512x480x8 bit monochrome or color images with no overlay.

**Refresh Rate:** 525 line/30 Hz interlaced.

**Zoom:** 2:1, 4:1, and 8:1 via pixel replication—-independent in X and Y axis.

**Pan (Roam):** Independent pan for image and overlays. For a dual monochrome image system independent pan on each image.

**Overlay Transformation:** Master overlay enable allows mixing of overlay with image. For monochrome, 4 bits of overlay select one of 16 by 10 bit entries in the overlay look up table. Eight (8) bits select the desired grey scale for overlay. The blink bit is used to select blink at 1 Hz rate. The transparency bit is used to override the overlay mix for a particular overlay combination.

For color, each 4 bit overlay goes to three 16 word by 10 bit tables giving 16 color possibilities out of a 256<sup>3</sup> set. Blink and transparency on each table entry allows individual control over the blink/transparency for the red, green, and blue components of the overlay output.

**Image Transformation:** A 4K by 8 bit monochrome table is standard. Three tables are required for color; four tables for color and monochrome. A color set gives 4096 color possibilities from a 16.8 million (2<sup>24</sup>) palette of hues.

**ASCII Overlay:** 64 ASCII set with programmable color for both character and background, independent character blink (1 Hz), and selective background enable.

**Cursor:** Dual cursors with independent control, 8 modes for form control, and color programmable.

**Interfaces:** Host computer interface plus DMA for DEC PDP-11's. Other interfaces available.

**Software:** User library, diagnostic, and demonstration software on double density floppy disk standard with system. The optional Library of Image Processing Systems (LIPS) is available with the following minimum configuration:

VISACOM/23 Basic Display System  
Additional 128K bytes of LSI-11/23 memory  
Winchester Disk System—30 megabytes  
Magnetic Tape System—800/1600 BPI  
RSX11M V 3.2  
FORTRAN IV

**Peripheral Devices:** Attach any Q-bus compatible device  
Eight dual controller slots available

**Interactive Options:** Joystick, trackball, tablet

**Video Outputs:** 525 line RS170 compatible

**Physical:**

**Chassis Dimensions:**

19" (48.3 cm) wide, 14" (35.6 cm) high, 18" (45.7 cm) deep

**Weight:**

50 pounds (22.7 kgms)

**Power:**

60 Hz AC, 115 Volts, 3 amps  
50 Hz AC, 220 Volts, 1.8 amps

**Operating Temperature:**

10°-40° C

**Storage Temperature:**

0°-70° C

For more information, contact:

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